

CHAPTER 10

SECTION 7 RADIATION SAFETY

10.7.1 PURPOSE

This section states the policy for the acquisition, use, and disposition of radioactive materials and radiation-emitting equipment.

10.7.2 DEFINITIONS

- A. Radioactive Materials. Radioisotopes, neutron sources, or any other sources, whether sealed or unsealed, which spontaneously emit particles, X-rays, or gamma rays.
- B. Radiation-Emitting Equipment. Irradiators, nuclear moisture-density measurement devices, static elimination devices, electron microscopes, X-ray machines, or other equipment or devices which emit ionizing radiation.

10.7.3 POLICY

It is APHIS policy to comply with the requirements of Department Regulation 4400-5, Radiation Safety Program and the USDA Radiation Safety Handbook.

10.7.4 RESPONSIBILITIES

- A. Responsibility for the USDA Radiation Safety Program (RSP) has been assigned to the Assistant Secretary for Administration. Routine operational aspects of the RSP have been delegated through the Director, Safety and Health Management Division (SHMD), Office of Personnel (OP) to the Director, Radiation Safety Staff (RSS). The RSS handles the daily operations for the control and safe use of radioactive materials and radiation-emitting equipment.
- B. The USDA Radiation Safety Committee (RSC) establishes general policies regarding the radiation safety program and reviews all requests for the use of radioactive materials and radiation-emitting equipment. The RSC is composed of representatives from agencies within the Department who are users of radioactive materials or radiation-emitting equipment.
- C. Representation on the RSC will be rotated on a biennial basis between the Safety, Health, and Environmental Staff (SHES), and Agency programs such as Plant Protection and Quarantine, Veterinary Services, and Wildlife Services, which utilize radioactive materials or radiation-emitting equipment. To find out who is on the RSC, employees may contact SHES or RSS, directly. SHES will also provide assistance to the Departmental Radiation Safety Staff to resolve Radiation Safety Program issues, and disseminate information to APHIS Safety and Health Officers concerning program initiatives. SHES will also maintain contact with APHIS program representatives on the RSC to provide continued program assistance and review.

D. Center/Rearing Facility/Laboratory Directors, Station Supervisors, and Work Unit Supervisors are responsible for:

1. Ensuring facility compliance with Department Regulation 4400-5, and established regulatory standards.
2. Appointing a Location Radiation Protection Officer (LRPO) to manage activities of the facility's Radiation Safety Program and to serve as a liaison between the facility, SHES, and Departmental Radiation Safety representatives.
3. Reviewing permit applications for the use or storage of radioactive materials and radiation emitting devices.
4. Ensuring that employees comply with the rules and regulations for the safe use of radioactive materials and radiation-emitting equipment.

E. Location Radiation Protection Officers are responsible for:

1. Reporting items of noncompliance with program requirements and unsafe practices to site management and the RSS.
2. Coordinating the Departmental/Agency Radiation Safety Program at the facility.
3. Serving as a liaison between the facility, SHES, and the Departmental Radiation Safety representatives.
4. Assisting the Radiation Safety Staff in performing reviews of the Radiation Safety Program.
5. Maintaining appropriate records and permits.
6. Review radioisotope use applications.
7. Conducting audits to assure that permit holders and associate users are authorized by RSS to use radioactive material.
8. Coordinating radiation safety training for ancillary staff and users of radioactive materials.
9. Coordinating security and disposal of radioactive materials, and assuring the technical and administrative requirements are met for transfer or disposal of the materials.
10. Coordinating radioactive material incineration operations and reviewing ash evaluations and associated records to assure that procedures established for the site are followed.
11. Determining location effluent concentration or limits for radioactive waste disposed through the sanitary sewerage system or for unrestricted release to air

and water.

12. Assisting facility management in responding to radiological emergencies, unusual events, and coordinating technical assistance through the RSS.
- F. Permit Holders/Primary Users are responsible for:
1. Meeting the qualifications and requirements for use of radioisotopes or radiation-emitting equipment.
 2. Using radioisotopes or radiation-emitting equipment in a safe manner and in accordance with the conditions of their permit.
 3. Knowing the requirements of proper operation and safe use of the materials or equipment they use.
 4. Reporting items of noncompliance with program requirements and unsafe practices to LRPO.

10.7.5 ACQUISITION OF RADIOACTIVE MATERIALS

- A. Written approval must be obtained from the RSS before procuring electron capture detectors, radioactive material, or radiation-emitting equipment. The acquisition of radioactive material or radiation-emitting equipment by purchase or any other means is prohibited without prior approval of RSS.
- B. A copy of the AD-700, Procurement Request, must be submitted to the RSS.
- C. The RSS will review the request, amend the individual's user permit if necessary, and send documentation of approval back to the individual making the procurement request.
- D. The AD-700, along with the RSS approval can be submitted to Procurement and Realty Services, Field Servicing Office (FSO) for action.

10.7.6 APPROVAL FOR USE OR TRANSFER OF RADIOACTIVE MATERIAL OR RADIATION-EMITTING EQUIPMENT

- A. Any employee who wishes to use radioactive materials or radiation-emitting equipment must receive approval from the RSC.
- B. An application to become an authorized user or permit holder can be obtained from the RSS.
- C. APHIS employees must obtain approval from the RSC to participate in cooperative work projects involving the use of radioactive material or radiation-emitting equipment under the supervision of other than a Department agency.
- D. Approval must be obtained from the RSC to transfer or exchange radioactive material or

radiation-emitting equipment to organizational units or persons other than those to which originally consigned.

10.7.7 DISPOSAL OF RADIOACTIVE WASTE OR RADIATION-EMITTING EQUIPMENT

- A. Disposal of waste must be performed in accordance with Departmental guidelines and Federal, State, local regulations.
- B. The waste must be transported, stored, and disposed of by licensed and permitted brokers. The RSS will verify that the brokers used by agency locations are licensed for the activities that they conduct and will maintain copies of the brokers' licenses.
- C. The LRPO must maintain copies of the waste disposal and transportation manifests for radioactive materials shipped from their locations.
- D. For equipment, such as X-ray units, facilities should first determine whether the device can be used by another APHIS facility. If not, the facility should determine whether the equipment can be returned to the manufacturer for recycling. Arrangements have been made with companies, such as EG&G Astrophysics Research Corporation, to accept X-ray equipment. Facilities will be required to complete an AD-107 (Transfer Property). If the equipment is no longer useful and will not be accepted by the manufacturer, and requires disposal, the facility must determine whether the device contains any hazardous components. X-ray units, for example, contain lead shielding which requires disposal as a hazardous waste. Prior to disposal, the facility should have the hazardous components removed and disposed of properly. Removal must be performed by a trained technician. The equipment should also be rendered inoperable, to prevent injury associated with use of the device.

For further information concerning X-ray machines, see the Plant Protection and Quarantine X-ray Manual.

10.7.8 INQUIRIES

Direct inquiries concerning radiation safety, radiation materials, and radiation-emitting equipment to:

USDA, OP, SHMD
Radiation Safety Staff, Unit 91
4700 River Road
Riverdale, MD 20737

Telephone	(301) 734-4945
Facsimile	(301) 734-5050

Standard Operating Procedures with contact numbers are available through the Radiation Safety Staff.

Direct inquiries concerning procurement matters to:

USDA, APHIS, FSO
Procurement and Realty Services
100 North Sixth Street, 5th Floor
Minneapolis, MN 55403-1588

Telephone	(612) 370-2130
Facsimile	(612) 370-2136

Direct all other inquiries to:

USDA, APHIS
Safety, Health, and Environmental Staff
4700 River Road, Unit 115
Riverdale, Maryland 20737-1238

Telephone	(301) 734-5383
Facsimile	(301) 734-4846